Chemical/Biological Terrorism
December 2004

1: Annu Rev Public Health. 2004 Nov 11; [Epub ahead of print]
Water and Bioterrorism: Preparing for the Potential Threat to U.S. Water Supplies and Public Health.
Meinhardt PL.
Center for Occupational and Environmental Medicine, Arnot Ogden Medical Center, Elmira, NY 14950 epidoc@twcny.rr.com.
Water supplies and water distribution systems represent potential targets for terrorist activity in the United States because of the critical need for water in every sector of our industrialized society. Even short-term disruption of water service can significantly impact a community, and intentional contamination of a municipal water system as part of a terrorist attack could lead to serious medical, public health, and economic consequences. Most practicing physicians and public health professionals in the United States have received limited training in the recognition and evaluation of waterborne
disease from either natural or intentional contamination of water. Therefore, they are poorly prepared to detect water-related disease resulting from intentional contamination and may not be adequately trained to respond appropriately to a terrorist assault on water. The purpose of this review is to address this critical information gap and present relevant epidemiologic and clinical information for public health and medical practitioners who may be faced with addressing the recognition, management, and prevention of water terrorism in their communities. Expected online publication date for the Annual Review of Public Health Volume 26 is March 17, 2005. Please see
http://www.annualreviews.org/catalog/pub_dates.asp for revised estimates.
PMID: 15538920 [PubMed - as supplied by publisher]

2: Clin Infect Dis. 2004 Dec 15;39(12):1842-7. Epub 2004 Nov 18.
Screening for inhalational anthrax due to bioterrorism: evaluating proposed screening protocols.
Howell JM, Mayer TA, Hanfling D, Morrison A, Druckenbrod G, Murphy C, Cates R, Pauze D.
Department of Emergency Medicine, Inova Fairfax Hospital, Falls Church, VA, 22042, USA. john.howell@inova.com.
Eleven known cases of bioterrorism-related inhalational anthrax (IA) were treated in the United States during 2001. We retrospectively compared 2 methods that have been proposed to screen for IA [1, 2]. The 2 screening protocols for IA were applied to the emergency department charts of patients who presented with possible signs or symptoms of IA at Inova Fairfax Hospital (Falls Church, Virginia) from 20 October 2001 through 3 November 2001. The Mayer criteria [1] would have screened 4 patients (0.4%; 95% CI, 0.1%-0.9%) and generated charges of $1900. If 29 patients (2.6%; 95% CI, 1.7%-3.7%) with >/=5 symptoms (but without fever and tachycardia) were screened, charges were $13,325. The Hupert criteria [2] would have screened 273 patients (24%; 95% CI, 22%-27%) and generated charges of $126,025. In this outbreak of bioterrorism-related IA, applying the Mayer criteria would have identified both patients with IA and would have generated fewer charges than applying the Hupert criteria.

PMID: 15578409 [PubMed - in process]

3: Healthcare Benchmarks Qual Improv. 2004 Oct;11(10):118-20.
Tool locates alternative sites during bioterrorism.
[No authors listed]
Following a bioterror event, hospitals may be overwhelmed by an influx of patients. An Agency for Healthcare Research and Quality tool includes 30 different attributes by which to compare and rank facilities. The tool was made available to representatives at Olympics venues in Athens, Greece.
PMID: 15537069 [PubMed - in process]

4: Int J Epidemiol. 2004 Jun;33(3):579-81. Epub 2004 May 26.
Long-term pulmonary complications in combatants exposed to mustard gas: a historical cohort study.
Zarchi K, Akbar A, Naieni KH.
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BACKGROUND: Sulphur mustard (mustard gas), the most widely used chemical agent in the Iran-Iraq war, affects many organs including the skin, the gastrointestinal and respiratory tracts, and the central nervous system. The aim of this study was to assess the cumulative incidence rate and annual incidence rate of pulmonary complications, and the rate ratio of related factors. METHODS: In a retrospective cohort study of 1337 soldiers with a history of mustard gas exposure, factors such as age, smoking habit, number of exposure episodes, and the use of gas masks were determined, together with an assessment of their relationship to the occurrence of long-term pulmonary complications. All patients residing in the Tehran area were enrolled in the study. Data collection was based on the subjects' medical records and included clinical, spirometric,
and in some cases histopathological findings. RESULTS: The cumulative incidence rate of pulmonary complications was 31.6%; the lowest annual incidence rate was noted during the first year of follow-up (0.75/1000), and the highest rate recorded in the seventh year (76.9/1000). Estimated relative risks (RR) for various age groups are as follows: 1.13 (95% CI: 0.88, 1.46) for those aged 21-25 years; 1.49 (95% CI: 1.10, 2.01) for ages 26-30; 1.70 (95% CI: 1.20, 2.40) for ages 31-35; and 2.09 (95% CI: 1.57, 2.77) for subjects aged >/=36. RR with regard to other factors were: more than one versus single exposure 0.69 (95% CI: 0.42, 1.12); smoking versus non-smoking 1.08 (95% CI: 0.80, 1.45), and unprotected exposure versus protective mask use 3.04 (95% CI: 2.20, 4.20). CONCLUSION: The estimated risk of pulmonary complications from war exposure to mustard gas increased with age and for soldiers who had not worn masks.
PMID: 15163642 [PubMed - indexed for MEDLINE]

5: J Healthc Prot Manage. 2004 Summer;20(2):55-9.
Bio-terrorism, "dirty bombs," hospitals, and security issues.
Gonzalez JC.
Successful Negotiations, Cibilo, TX, USA.
In the event of a bio-terrorism event, the role of the hospital security department will be critical if the disaster plans of health care providers are to be successfully carried out. It is imperative, says the author, that security providers be involved in every step of disaster and emergency response planning.
PMID: 15457919 [PubMed - indexed for MEDLINE]

6: J Med Ethics. 2004 Dec;30(6):558-60.
Bioterrorism and smallpox planning: information and voluntary vaccination.
Selgelid MJ.

Centre for Values, Ethics and the Law in Medicine (D06), and Unit for History and Philosophy of Science (F07), The University of Sydney, NSW, 2006, Australia. selgelid@med.usyd.edu.au.
Although smallpox was declared eradicated in 1980, there are fears that stocks of the virus manufactured for military purposes by the Soviet Union may have fallen into the hands of "rogue nations" or terrorists. Worries about bioterrorism have thus sparked debate about whether or not the smallpox vaccine, which can be dangerous, should be offered to the general public. Meaningful public debate on this issue requires expert information about the likelihood that the virus will in fact be used as a weapon. Informed voluntary individual decision making, about whether to get vaccinated if vaccine is made available to the public, would similarly require appreciation of the likelihood of attack.
Public deliberation and private deliberation thus both require briefing by the intelligence community.
PMID: 15574444 [PubMed - in process]

7: J N J Dent Assoc. 2004 Summer;75(3):32-6.
Practical aspects of bioterrorism for dentistry. Part 1.
Lassiter TE, Panagakos FS.
UMDNJ-New Jersey Dental School, USA. lassiter@umdnj.edu
PMID: 15552620 [PubMed - in process]

8: J Public Health Manag Pract. 2004 Sep-Oct;10(5):475-8.
The impact of federal funding on local bioterrorism preparedness.
Bashir Z, Brown D, Dunkle K, Kaba S, McCarthy C.
Bioterrorism and Emergency Response, National Association of County and City Health Officials, Washington, DC, USA.
PMID: 15552775 [PubMed - in process]

9: JEMS. 2004 Aug;29(8):suppl 22-31.
Cyanide as a chemical terrorism weapon.
Eckstein M.
Los Angeles Fire Department, California, USA.
Publication Types: Review Review, Tutorial
PMID: 15362234 [PubMed - indexed for MEDLINE]

10: Los Angeles Times. 2004 Mar 3;:A3.
North Korea's use of chemical torture alleged.
Demick B.
Publication Types: Historical Article Newspaper Article
PMID: 15457625 [PubMed - indexed for MEDLINE]

11: Nat Med. 2004 Dec;10(12 Suppl):S130-6.
Advances in detecting and responding to threats from bioterrorism and emerging infectious disease.
Rotz LD, Hughes JM.
The authors are at the National Center for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia 30333, US.
PMID: 15577931 [PubMed - in process]

12: Nat Rev Microbiol. 2004 Dec;2(12):967-78.
Tularaemia: bioterrorism defence renews interest in Francisella tularensis.
Oyston PC, Sjostedt A, Titball RW.
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Francisella tularensis is a highly infectious aerosolizable intracellular pathogen that is capable of causing a debilitating or fatal disease with doses as low as 25 colony-forming units. There is no licensed vaccine available. Since the 1950s there has been concern that F. tularensis could be used as a biological threat agent, and it has received renewed attention recently owing to concerns about bioterrorism. The International Conference on Tularaemia in 2003 attracted more than 200 delegates, twice the number of participants as previous meetings. This is a reflection of the increased funding of research on this pathogen, particularly in the United States.
PMID: 15550942 [PubMed - in process]

13: Prehospital Disaster Med. 2004 Apr-Jun;19(2):185.
Media influence on Poison Center call volume after 11 September 2001.
LoVecchio F, Katz K, Watts D, Pitera A.
Publication Types: Letter
PMID: 15506257 [PubMed - indexed for MEDLINE]

14: Prehospital Disaster Med. 2004 Apr-Jun;19(2):174-8.
Civilian exposure to toxic agents: emergency medical response.
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Civilian populations are at risk from exposure to toxic materials as a result of accidental or deliberate exposure. In addition to industrial hazards, toxic agents designed for use in warfare now are a potential hazard in everyday life through terrorist action. Civil emergency medical responders should be able to adapt their plans for dealing with casualties from hazardous materials (HazMat) to deal with the new threat. Chemical and biological warfare (CBW) and HazMat agents can be viewed as a continuous spectrum. Each of these hazards is characterized by qualities of toxicity, latency of action, persistency, and transmissibility. The incident and medical responses to release of any agent is determined by these characteristics. Chemical and biological wardare agents
usually are classified as weapons of mass destruction, but strictly, they are agents of mass injury. The relationship between mass injury and major loss of life depends very much on the protection, organization, and emergency care provided. Detection of a civil toxic agent release where signs and symptoms in casualties may be the first indicator of exposure is different from the military situation where intelligence information and tuned detection systems generally will be available. It is important that emergency medical care should be given in the context of a specific action plan. Within an organized and protected perimeter, triage and decontamination (if the agent is persistent) can proceed
while emergency medical care is provided at the same time. The provision of advanced life support (TOXALS) in this zone by protected and trained medical responders now is technically feasible using specially designed ventilation equipment. Leaving life support until after decontamination may have fatal consequences. Casualties from terrorist attacks also may suffer physical as well as toxic trauma and the medical response also should be capable of dealing with mixed injuries.
PMID: 15506255 [PubMed - indexed for MEDLINE]

15: Psychiatr Clin North Am. 2004 Sep;27(3):391-406.
General disaster psychiatry.
Garakani A, Hirschowitz J, Katz CL.
Department of Psychiatry, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029, USA.
This article attempts to make further sense of disasters and specifically terrorism as one particular form of disaster from the perspective of psychology and mental health.
PMID: 15325484 [PubMed - indexed for MEDLINE]

16: Risk Anal. 2004 Oct;24(5):1407.

Erratum to "Simulation Modeling of Anthrax Spore Dispersion in a Bioterrorism Incident," by Vladimir P. Reshetin and James L. Regens, in Risk Analysis, 23(6), 2003.
[No authors listed]
PMID: 15563304 [PubMed - as supplied by publisher]

17: Stud Health Technol Inform. 2004;98:221-7.
Bioterrorism: development of large-scale medical readiness using multipoint distance-based simulation training.
von Lubitz DK, Carrasco B, Fausone CA, Gabbrielli F, Kirk J, Lary MJ, Levine H, Patrcelli F, Pletcher TA, Richir S, Stevens G, Wroblewski G.
MedSMART Inc., Ann Arbor, MI, USA.
Accordingly to HIRSA, 35,000 health professionals need to be trained in recognition and acute field treatment of victims of bioterrorism within year 2004 alone The Department of Defense anticipates even larger numbers. Training of very large number of healthcare workers is particularly daunting in the context of "just-in-time" education. The paper presents utilization of simulation-based distance training as a particularly useful tool in rapid development of readiness in a large population of widely distributed medical and lay personnel facing imminent threat of a chem/bioterrorism incident.
PMID: 15544275 [PubMed - in process]

18: Urol Nurs. 2004 Oct;24(5):417-9.
Update on bioterrorism preparedness.
Weber CJ.
Regis University, Department of Nursing, Denver, CO, USA.
Knowledge and preparation are the best defense against a biological attack. By understanding the epidemiology of biological warfare agents and diseases, strategies can be planned to decrease the morbidity and mortality associated with them. There is an urgent need for developing rapid diagnostic tests, effective vaccines, and drug therapy to defend against biological weapon attacks. The CDC, along with other agencies and partners, are defining how the public health system is to prepare for and respond to public health threats posed by terrorism.
PMID: 15575112 [PubMed - in process]